A model for evaluating recent outbreaks of Dengue Fever in Pakistan

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Dengue is a mosquito borne disease prevalent in the tropical and subtropical countries including Pakistan. We evaluate Pakistan's dengue situation and compare this to epidemic trends in different countries including Brazil. We propose a deterministic mathematical model incorporating the transmission of different strains of dengue and identify a number of factors related to the spread of the disease in Pakistan. Using data from recent outbreaks we determine the value of basic reproductive number and compare it with the basic reproductive number evaluated in different countries including Brazil.